SHIP STERN FLAPS FOR FUEL SAVINGS

VANCED PROPULSION, POWER, & FUEL EFFICIEN

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- Technical Objectives
  - Develop and demonstrate design methodology for producing optimized stern flap geometry
  - Complementary CFD and towing tank procedure for scaling drag reduction from model to full-scale
- Navy Need
  - Fuel savings, cost reduction
- Related Navy Programs

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- Transition
  - –DDG-51 retrofit
  - –SC-21 family (DD-21, CG-21,…)
  - –CVNX
- Potential Commercial Applications
  - –Fuel efficiency; cost reduction

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- Required Resources to be Successful
  - Academic, industrial, government collaboration
  - Understanding of viscous flow computational methods and of stern flap design and operation
  - Imagination and innovation
  - System approach
- Government Resources Available in Support of Technology
  - NSWC/CD expertise on stern flaps

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Stern Wedges and Stern Flaps for Improved Powering - U.S. Navy Experience

G. Karafiath, D. Cusanelli, and C. Lin

The Society of Naval Architects and Marine Engineers
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